NORTHERN BIRDS SUMMERING IN PANAMA

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THE regular summering of shorebirds far south of their boreal breeding grounds has frequently been noted. Wherever the Charadrii winter abundantly most of the wintering species are to be found throughout the year. Eleven tundra-nesting species of shorebirds are listed as non-breeding "permanent residents" of South Carolina (Sprunt and Chamberlain, 1949: 212–251). The usual explanation—that summering non-breeding individuals are abnormal or senile—seems inadequate to account for so extensive and regular a phenomenon.

D. S. Bullock (1949: 353) has suggested that these summering shorebirds may not be northern at all, but rather migrants from some undiscovered breeding ground in Chile or Argentina. Were this so, one would expect to find such birds assuming fresh nuptial plumage between September and December (the southern hemisphere spring); but Bullock does not supply any evidence of this. Shorebirds collected in southern South America by Wetmore during September and October were either "in worn breeding plumage" or moulting into winter plumage (1926: 150–158)—what one would expect of migrants from northern breeding grounds. Moreover, considering that several of these tundra shorebirds split into recognizable subspecies over their boreal range, it would seem likely that southern-summering individuals, if actually from a widely-separated South American breeding population, should show subspecific differences in at least a few of the species involved. No such differences have been reported.

This regular summering of non-breeding waders within their winter ranges is not peculiar to the New World; it has been noted also in the Old (Witherby *et al.*, 1945: 153–154). Moreover, observations (confirmed by banding data) in Panamá, various parts of Central America, the West Indies, and northern South America clearly indicate that other birds than shorebirds summer regularly in their winter ranges without breeding there.

The probable explanation is that most of these non-breeding birds are immature rather than abnormal. If the impulse to return to the nesting grounds is dependent on the development of the gonads, the immature birds, lacking such stimulus, might be expected to linger around their winter quarters. Social tendencies may cause some young birds to accompany flocks of returning adults, thus accounting for the summering of non-breeders north of the winter range. Palmer (1941: 169) so explains such a situation among Common Terns (*Sterna hirundo*), which take more than one year to achieve breeding condition. While we do not know the time required for the various shorebirds to reach sexual

maturity, the fact that the related Laridae usually require at least two years is certainly suggestive. Numbers of gulls and terns regularly summer south of their breeding range, and in the case of the gulls obvious plumage characters make it apparent that most of these summering non-breeders are immature (Cruickshank, 1942: 232, 234; Sprunt and Chamberlain, 1949: 261–262). While age discrimination of this sort in the field is usually impossible among the Charadrii, it can at least be said that very rarely is a summering shorebird found in the tropics in full breeding plumage. Pitelka (1950: 28, 51), who checked the Dowitcher (*Limnodromus*) specimens in most of our museums, found that among those collected in summer far south of the breeding range, a large majority were birds hatched the previous year, and almost all the remainder might have been.

During 1948, 1949, and 1950, I visited the sea-shore near the city of Panamá a number of times between June 17 and July 16, apparently prior to the arrival of post-nuptial migrants from the north. I noted the following northern species, all but four of them each year. The stated number is the maximum seen on any one occasion:

Great Blue Heron (*Ardea herodias*)	2
Osprey (*Pandion haliaetus*)	2
Semipalmated Plover (*Charadrius hiaticula*)	200 (est.)
Black-bellied Plover (*Squatarola squatarola*)	13
Ruddy Turnstone (*Arenaria interpres*)	3
Dowitcher (*Limnodromus griseus*)	4
Hudsonian Curlew (*Numenius phaeopus*)	5
Willet (*Catoptrophorus semipalmatus*)	23
Semipalmated Sandpiper (*Ereunetes pusillus*) / Western Sandpiper (*Ereunetes mauri*)	500 (est.)
Laughing Gull (*Larus atricilla*)	11
Gull-billed Tern (*Gelochelidon nilotica*)	1
Common Tern (*Sterna hirundo*)	5
Royal Tern (*Thalasseus maximus*)	5
Black Tern (*Chlidonias niger*)	200 (est.)

Except for the Turnstones (July 13, 1950), the Dowitchers (June 24, 1949), and the Gull-billed Tern (July 16, 1950)*, all the foregoing species were seen in both late June and early July. The shorebirds were observed on the mud-flats exposed at low tide between the ruins of Old Panamá and San Francisco de la Caleta. The others (save for the Black Terns) were also found there, as well as at other localities. Thomas Imhof, who spent 1942 in Panamá and has gen-

* Except for these three species and the Great Blue Heron, all of the species discussed in this paper were again noted during the same period in 1951. In addition, Franklin's Gull (*Larus pipixcan*) was repeatedly seen at several localities at close range in numbers up to 18, invariably in immature, or at least non-breeding, plumage. A bird suspected to be of this species had been observed in 1950.

erously made his notes available, recorded most of these species during the same period of the year. Of seven Turnstones seen by him on June 15, he listed three as "adult," but these might well have been in their first summer plumage (which in some individuals is much like that of breeding adults). He also saw three White-rumped Sandpipers on June 15 in non-breeding dress. So far as I could determine, none of the shorebirds observed by me during this summer period were in nuptial plumage.

The Great Blue Heron can readily be found in Panamá throughout the year, and probably for this reason has been assumed to nest. Hellmayr and Conover (1948: 170) say it does not breed in Central America, however, and banding has established that northern-bred individuals not only migrate as far as Panamá but may summer in the tropics, e.g., a bird collected in Cuba about July 1, 1934, which had been banded as a juvenile in Wisconsin the previous year (Cooke, 1946; Seth Low, *in litt.*). I suspect that other northern-bred herons, particularly the Little Blue Heron (*Florida caerulea*) and Snowy Egret (*Leucophoyx thula*) commonly occur in Panamá in summer. Examples of both species banded as nestlings in the United States have been recovered in Central America (Lincoln, 1939: 115). While I know of no way to distinguish unbanded northern birds of these species from local birds, certain facts are suggestive. The Little Blue Herons I see in Panamá during the summer are mostly in mottled plumage so probably were hatched the year before. A number of these birds banded as nestlings in Mississippi have been taken the same or the following year in Central America, including Panamá. One banded in 1935 was recovered in British Honduras on July 20, 1936 (Coffey, 1948: 3). The 50 to 70 Snowy Egrets which frequent the mud-flats near Old Panamá in summer have no noticeable plumes. While few banded Snowy Egrets have been reported from Central America, the only summer recovery (Costa Rica, July 8, 1933) was a bird banded as a nestling in Texas in May of the preceding year (Lincoln, 1939: 115; Seth Low, *in litt.*).

Similarly, the Osprey, chiefly a winter visitant in Panamá, is frequently seen there during the summer. De Schauensee (1949: 403) has reported the species summering also in Colombia. LeRoy Wilcox, who has banded 1004 nestling or fledgling Ospreys on Long Island, New York, writes me that there have been only two recoveries of such birds during the year after banding. Both recoveries were in the tropics: one August 12, 1937, in Brazil (banded June 20, 1936), the other May 5, 1942, in Cuba (banded July 3, 1941). The inference that young birds remain on their wintering grounds seems reasonable. Yet not all southern-summering Ospreys are immature, for Seth Low of the U. S. Fish and Wildlife Service informs me that one recovered on June 28, 1935, in Venezuela had been banded *as an adult* in Delaware on April 26, 1934.

Summering Laridae are conspicuous in Panamá. The Laughing Gull, abundant in winter, can be found in numbers the year round. Imhof recorded it

every month of 1942, noting as many as 450+ on June 20, and 150 on June 28. My June and July birds all had the brownish wings of immaturity, though an occasional individual showed a well-developed hood. At least five laughing Gulls banded as juveniles on the Atlantic coast of the United States have been taken in Panamá, four of them the same or the following year. One banded in Virginia on July 29, 1940, was found with wing broken at Farfán Beach, Canal Zone, on June 15, 1941 (J. H. Buckalew and S. Low, *in litt.*). Common Terns which I have seen regularly in summer in Panamá, about inland waters as well as on the coast, have been in the white-faced, dusky-billed "*portlandica*" condition—the immature summer dress according to Palmer (1941: 164). A Panamá bird which I picked up sick on June 25, 1949, and a solitary female collected by Jewel on June 9, 1912 (Stone, 1918: 244), were also in this plumage. Young Common Terns banded in the eastern United States have been taken the following summer off the north coast of South America, and one immature banded in Minnesota July 6, 1933, was recovered at La Venta Beach, on the Pacific coast of Panamá, on October 1, 1934 (Lincoln, 1936: 146). Royal Terns, frequently seen in Panamá in June and July (Imhof saw 15 on June 20, 1942), are white-fronted individuals. Northern-bred Royal Terns are known to migrate as far as South America and some summer in the tropics—e.g., one caught in Jamaica on June 22, 1934, banded in South Carolina on July 11, 1933 (Lincoln, 1936: 148). The Black Tern, a common migrant and also a winter visitant, I found in substantial numbers on June 28, 1948, on a launch trip in Panama Bay, not far from Balboa. Although I did not go offshore in the following years, I saw six on Gatun Lake near Barro Colorado Island on June 28, 1949, and a few off Gamboa on July 5, 1949. All were in non-breeding plumage.

The Nighthawk (*Chordeiles minor*) may also belong in this category. Every evening of June and July in 1948, 1949, and 1950, at my brother's home in the Juan Franco suburb of Panama City, I have seen and heard from two to six of these birds flying high and giving repeatedly the familiar, penetrating, characteristic *peent* call. No race of *minor* is known to breed in continental America south of México. Until specimens are collected it is unsafe to assume, however, that these birds summering in Panamá are non-breeding northern birds. It should be noted that a crippled individual of *minor* (identified as *C. m. henryi* by de Schauensee, 1945: 509) has been taken in Colombia in June. Also to be noted is the fact that the Lesser or Trilling Nighthawk (*C. acutipennis*), whose voice is very dissimilar to that of *minor*, is not known to breed in Panamá or Costa Rica.

The summering in the tropics of northern birds is more regular and widespread than has generally been realized. With the increase of banding enough data should in time accumulate to determine the relationship of age to the duration of the southern sojourn. On the fragmentary evidence now available it would seem that most of these summering individuals are immature.

Literature Cited

Bullock, Dillman S.
1949 North American bird migrants in Chile. *Auk*, 66: 351–354.
Coffey, Ben B. Jr.
1948 Southward migration of herons. *Bird Banding*, 19: 1–5.
Cooke, May Thacher
1946 The winter range of the Great Blue Heron. *Auk*, 63: 254.
Cruickshank, A. D.
1942 Birds around New York City. Handbook Series, No. 13. Am. Mus. Nat. Hist., New York.
De Schauensee, R. M.
1949 The birds of the Republic of Colombia. Second Part. *Caldasia*, 5: 381–644.
Hellmayr, Charles E., and Boardman Conover
1948 Catalogue of birds of the Americas. *Field Mus. Nat. Hist. Zool. Ser.* Vol. 13, Part 1, No. 2.
Lincoln, Frederick C.
1936 Returns of banded birds: third paper. (Some recoveries of water birds from Latin America). *Bird Banding*, 7: 139–148.
1939 The migration of American birds. Doubleday, Doran & Co., Inc., New York.
Palmer, Ralph S.
1941 'White-faced' terns. *Auk*, 58: 164–178.
Pitelka, Frank A.
1950 Geographic variation and the species problem in the shore-bird genus Limnodromus. *Univ. Calif. Publ. Zool.*, 50, No. 1.
Sprunt, Alexander Jr., and E. Burnham Chamberlain
1949 South Carolina Bird Life. University of South Carolina Press, Columbia.
Stone, Witmer
1918 Birds of the Panama Canal Zone, with special reference to a collection made by Mr. Lindsey L. Jewel. *Proc. Acad. Nat. Sci. Phila.*, 70: 239–280.
Wetmore, Alexander
1926 Observations on the birds of Argentina, Paraguay, Uruguay, and Chile. *U. S. Natl. Mus. Bull.* 133.
Witherby, H. F. et al.
1945 The Handbook of British Birds. Vol. 4. H. F. & G. Witherby Ltd., London.

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